

TRAINEE'S GUIDE
for
AN/UCC-1 (Series)
TELEGRAPH TERMINALS

VOLUME 3

A-101-0022

A-101-0023

Bureau of Naval Personnel
December 1969

PREFACE

This volume, which is your personal copy, contains diagrams and schematics of the AN/UCC-1 (Series) Telegraph Terminals taught in the Electronics Technician courses A-101-0022 and A-101-0023.

The trainee's guides developed for these courses are:

NAVPERS	Title
94304A-1	Trainee's Guide for AN/UCC-1 (Series) Telegraph Terminals, vol 1, December 1969
94304A-2	Trainee's Guide for AN/UCC-1 (Series) Telegraph Terminals, vol 2, December 1969
94304A-3	Trainee's Guide for AN/UCC-1 (Series) Telegraph Terminals, vol 3, December 1969

DISTRIBUTION LIST

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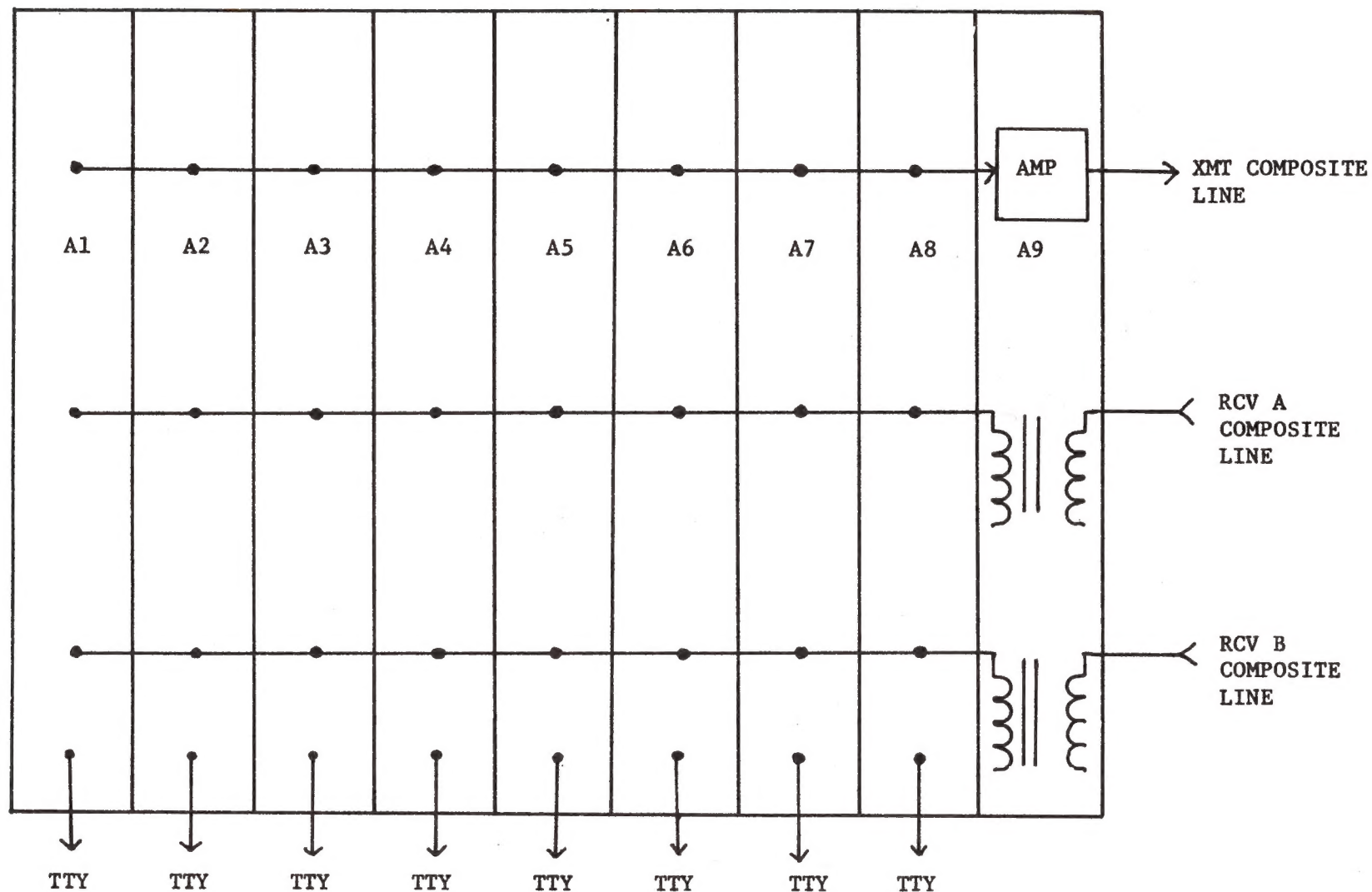
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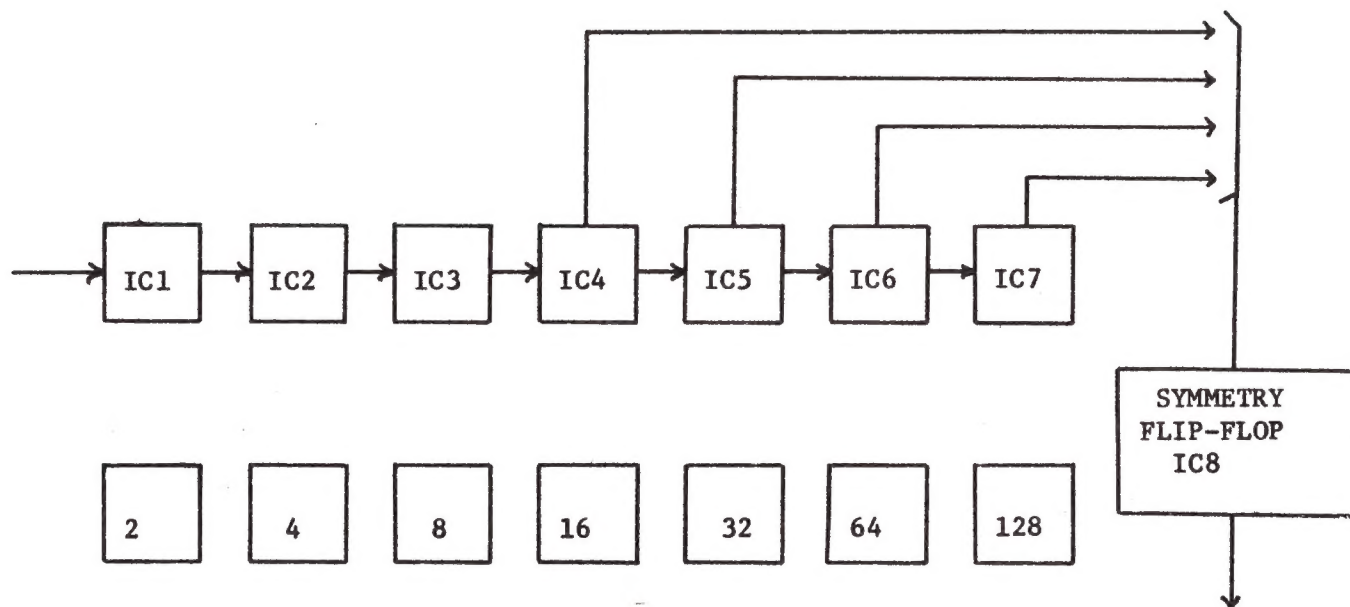
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2-1-1D

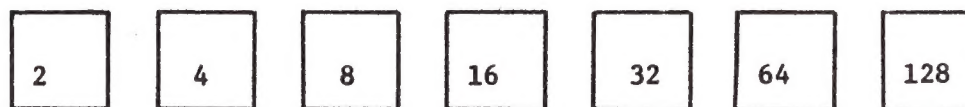


AN/UCC-1C
SIMPLIFIED CABINET DIAGRAM

FROM
OSCILLATOR



COUNTDOWN
WITH NO
FEEDBACK



COUNTDOWN
SUBTRACTED
WITH FEEDBACK



DERIVATION OF FEEDBACK PATH

AN/UCC-1C(V)
Trouble Shooting

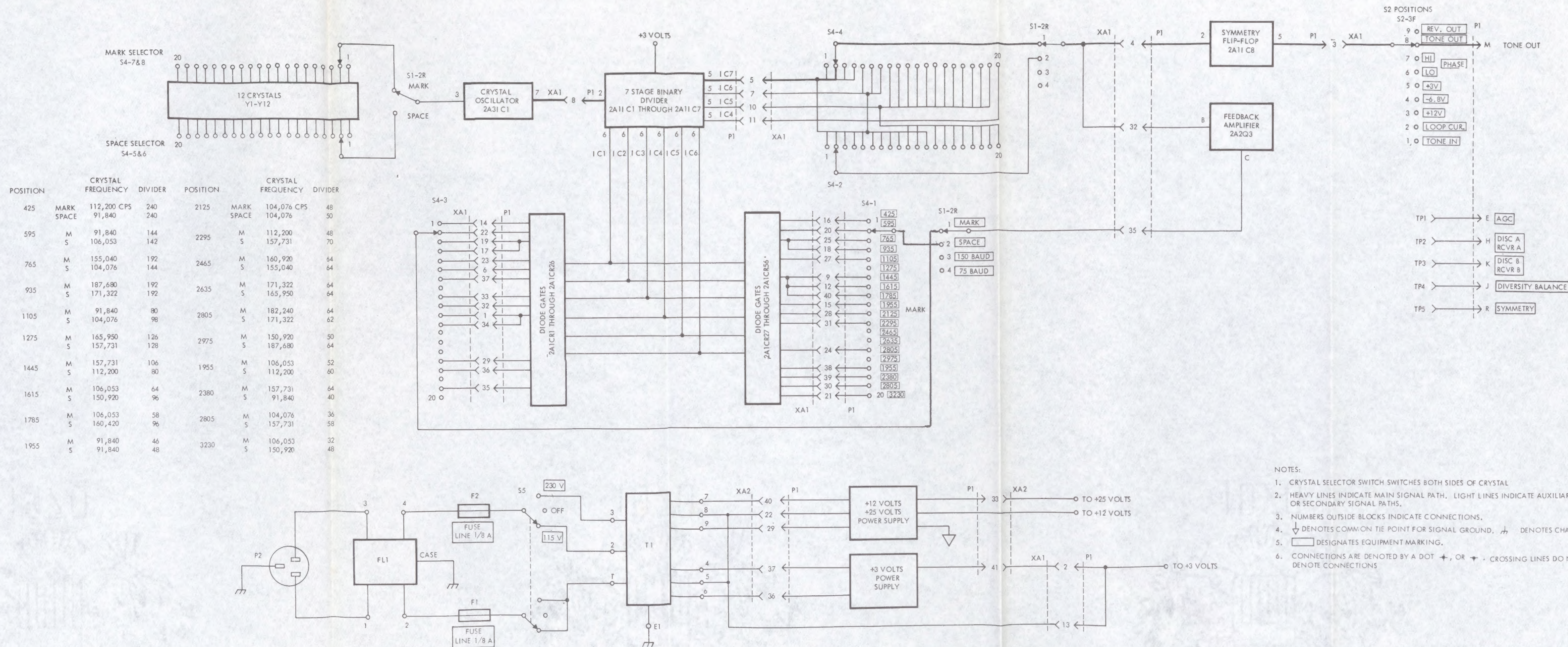


Figure 4-12. Test Set, Telegraph TS-2232/UCC-1C(V), Servicing Block **Diagram**
(Sheet 1 of 2)

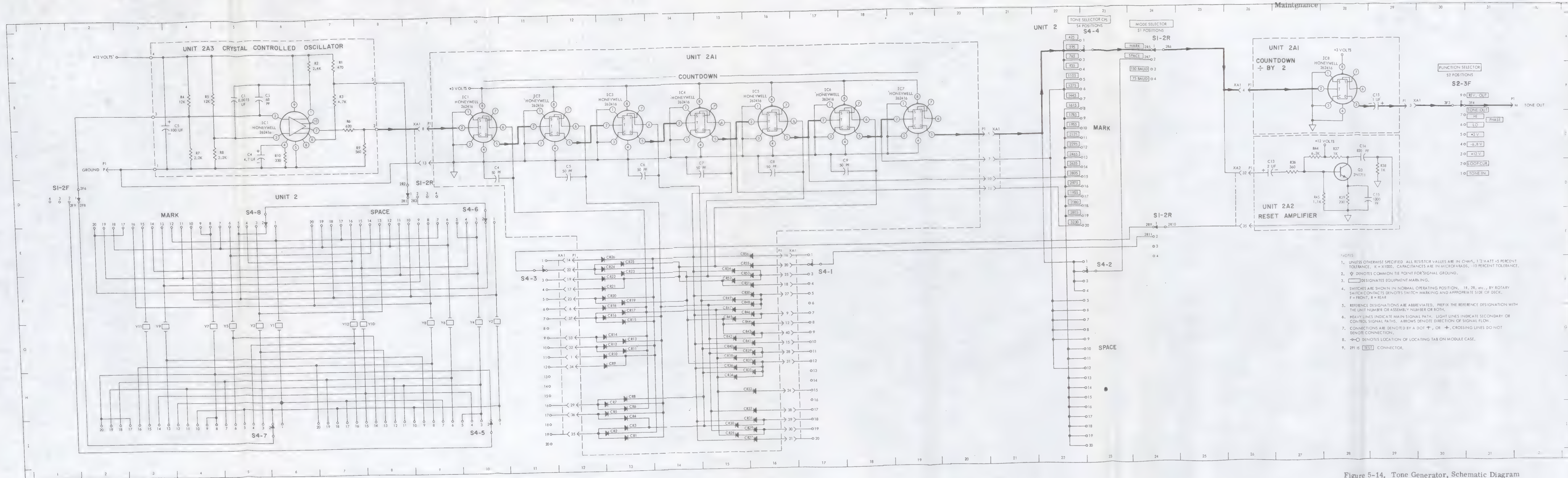


Figure 5-14. Tone Generator, Schematic Diagram

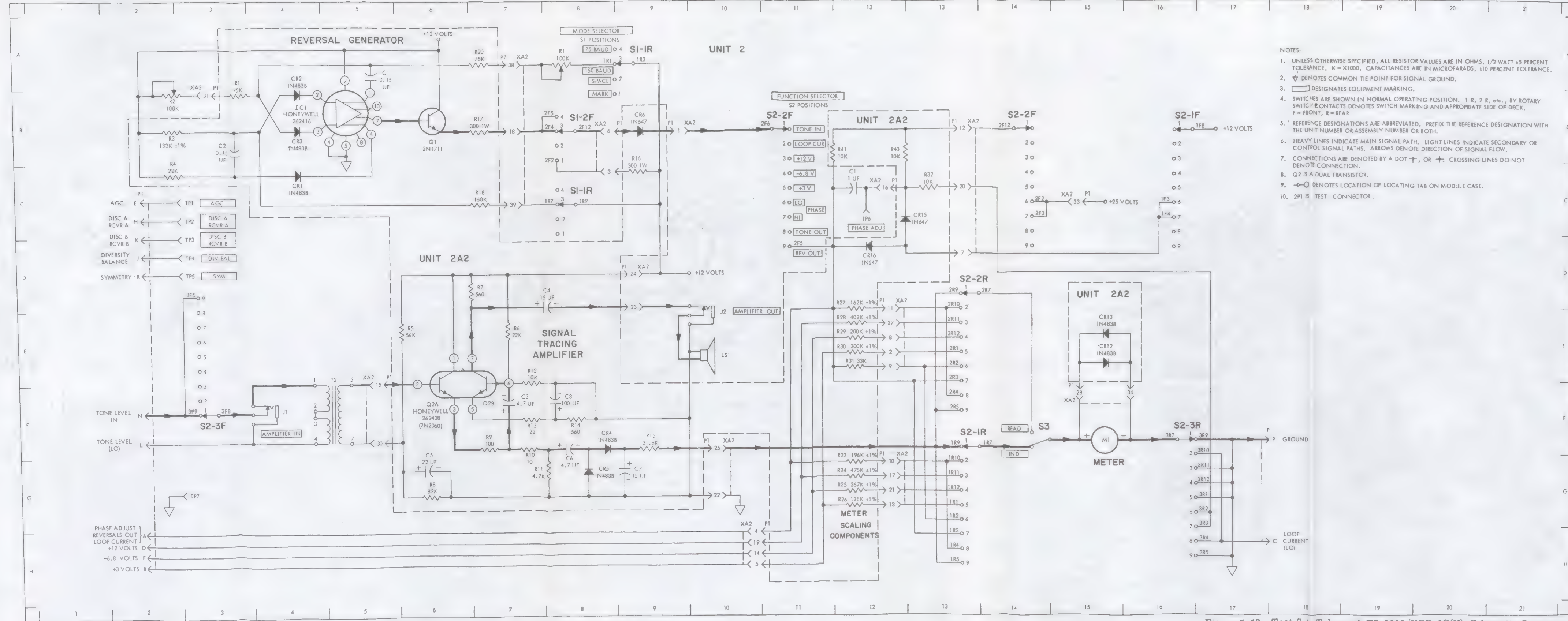
REFERENCE DESIGNATION	LOCATION	REFERENCE DESIGNATION	LOCATION
-----------------------	----------	-----------------------	----------

UNIT 2

C1	12C	S2-C	13F
		S2-D	13D
		S2-E	16F
		S2-G	16B
		S2-H	14B
J1	4F	S3	14F
J2	10D		
LS1	10E	T2	5F
N-1	15F		
R1	8A	TP1	3C
		TP2	3C
		TP3	3C
S1-A	9A	TP4	3D
S1-B	8C	TP5	3D
S1-C	8B	TP6	12C
		TP7	3G
S2-A	11B		
S2-B	2F		

UNIT 2A2

C1	5A	R3	2B
C2	3B	R4	2C
C3	7F	R5	6E
C4	8D	R6	7E
C5	6G	R7	7D
C6	8F	R8	6G
C7	9G	R9	7F
C8	8F	R10	7F
		R11	8G
CR1	4C	R12	7E
CR2	4B	R13	7F
CR3	4B	R14	8F
CR4	8F	R15	9F
CR5	8G	R16	9C
CR6	9B	R17	7B
		R18	7C
		R20	7A
CR13	15E	R23	12B
CR14	15E	R24	12G
CR15	13C	R25	12G
CR16	12D	R26	12G
IC1	5B	R27	12D
		R28	12E
Q1	6B	R29	12E
		R30	12E
Q2A	6F	R31	12E
Q2B	6F	R32	13C
R1	3B	R40	12B
R2	2B	R41	12B



NOTES:

- UNLESS OTHERWISE SPECIFIED, ALL RESISTOR VALUES ARE IN OHMS, 1/2 WATT ±5 PERCENT TOLERANCE. K = X1000. CAPACITANCES ARE IN MICROFARADS, ±10 PERCENT TOLERANCE.
- ⚡ DENOTES COMMON TIE POINT FOR SIGNAL GROUND.
- DESIGNATES EQUIPMENT MARKING.
- SWITCHES ARE SHOWN IN NORMAL OPERATING POSITION. 1 R, 2 R, etc., BY ROTARY SWITCH CONTACTS DENOTES SWITCH MARKING AND APPROPRIATE SIDE OF DECK. F = FRONT, R = REAR.
- REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE REFERENCE DESIGNATION WITH THE UNIT NUMBER OR ASSEMBLY NUMBER OR BOTH.
- HEAVY LINES INDICATE MAIN SIGNAL PATH. LIGHT LINES INDICATE SECONDARY OR CONTROL SIGNAL PATHS. ARROWS DENOTE DIRECTION OF SIGNAL FLOW.
- CONNECTIONS ARE DENOTED BY A DOT +, OR +. CROSSING LINES DO NOT DENOTE CONNECTION.
- Q2 IS A DUAL TRANSISTOR.
- DENOTES LOCATION OF LOCATING TAB ON MODULE CASE.
- 2P1 IS TEST CONNECTOR.

Figure 5-12. Test Set, Telegraph TS-2232/UCC-1C(V), Schematic Diagram

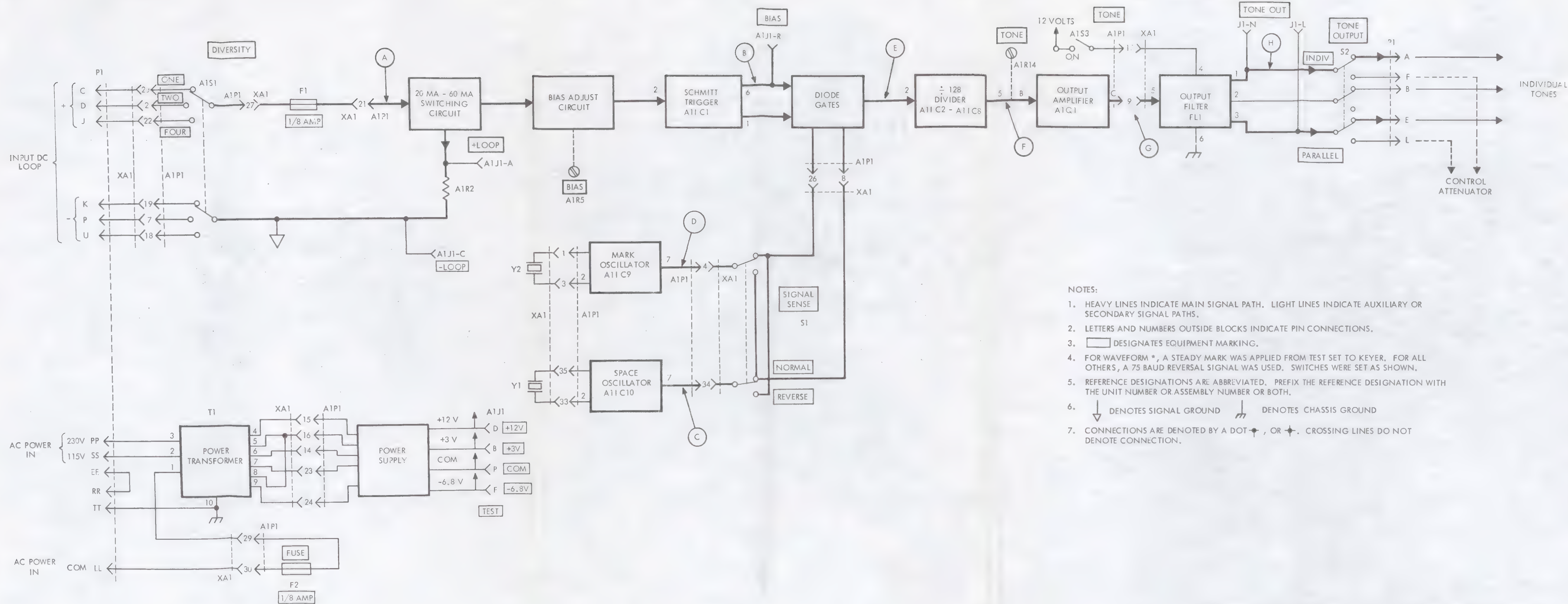
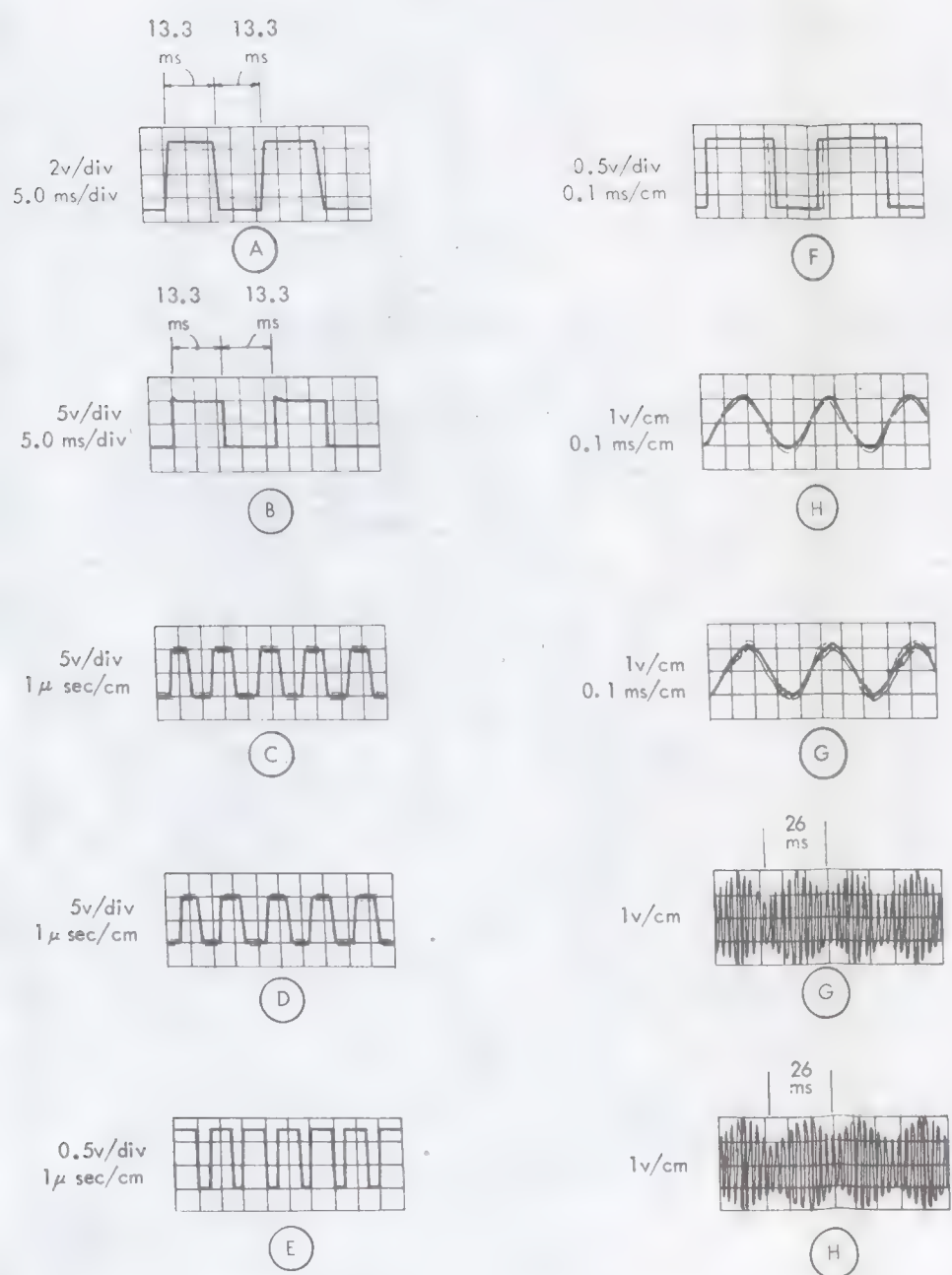
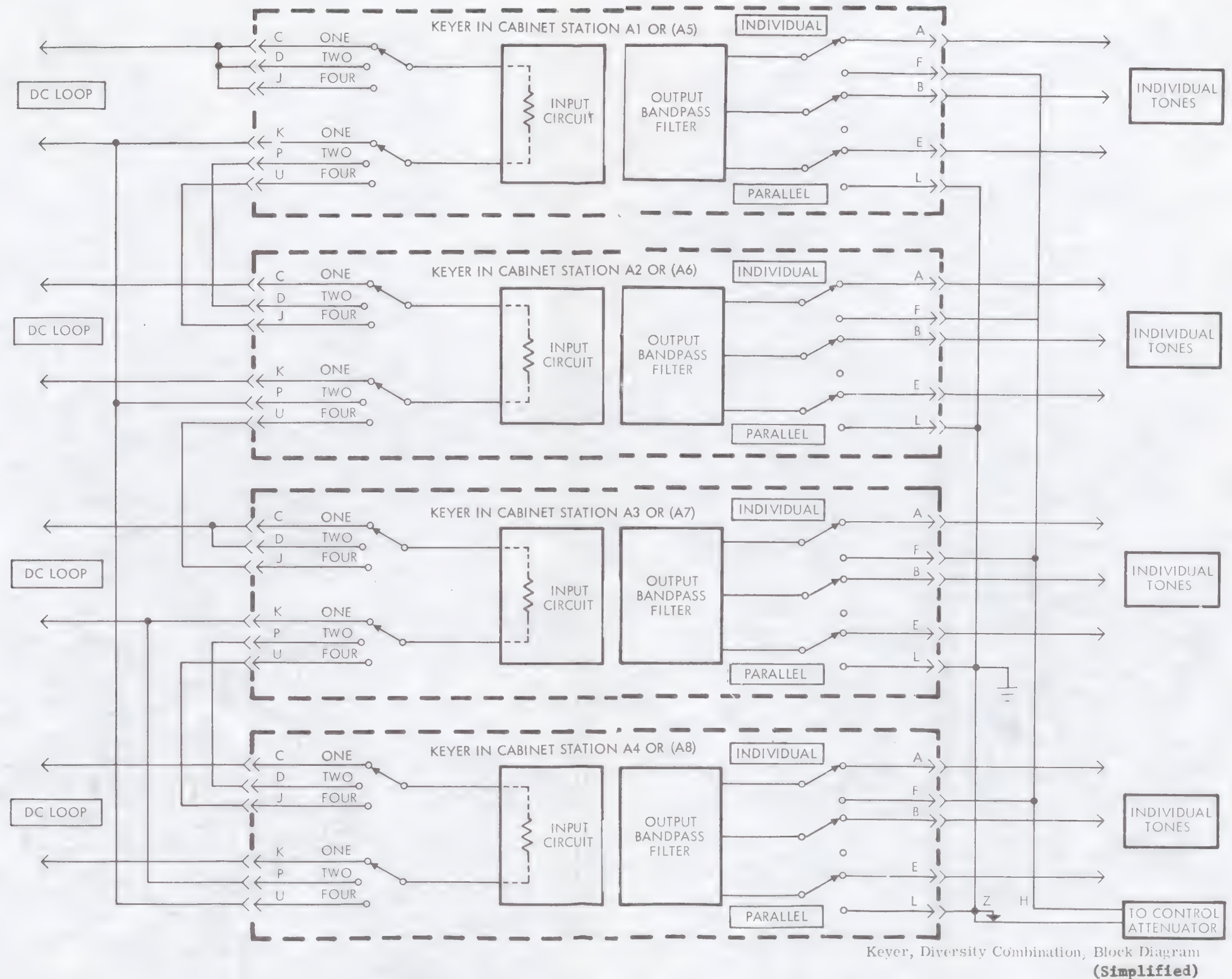
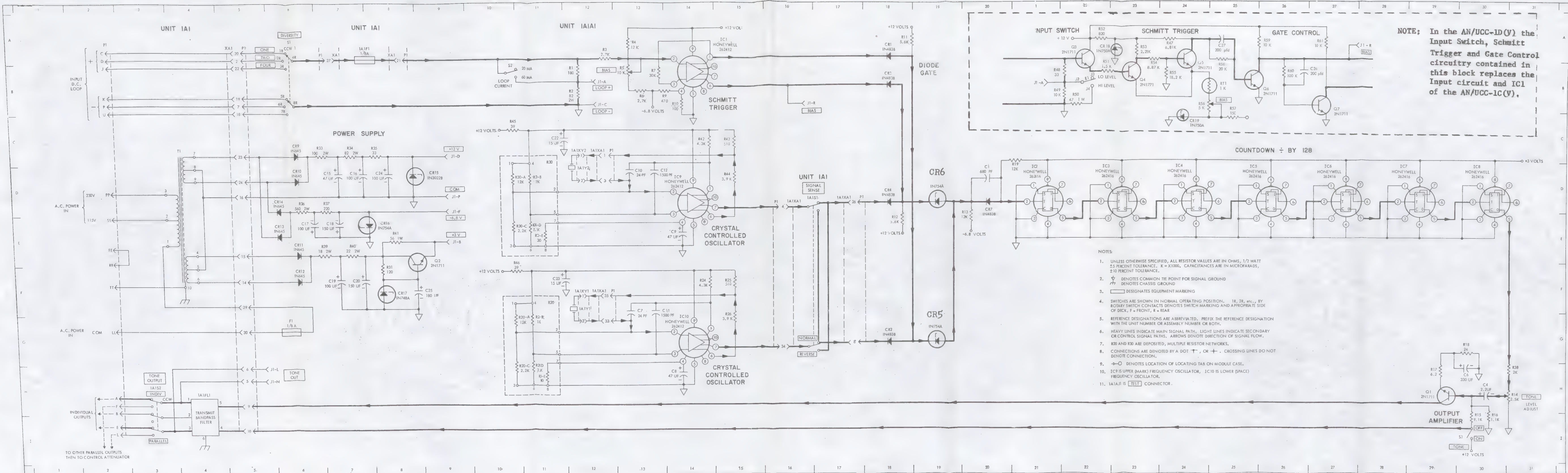


Figure 4-7. Keyer, Frequency Shift KY-558(P)/UCC-1C(V), Servicing Block Diagram





Keyer, Frequency Shift KY-558(P)/UCC-1C(V), Schematic Diagram

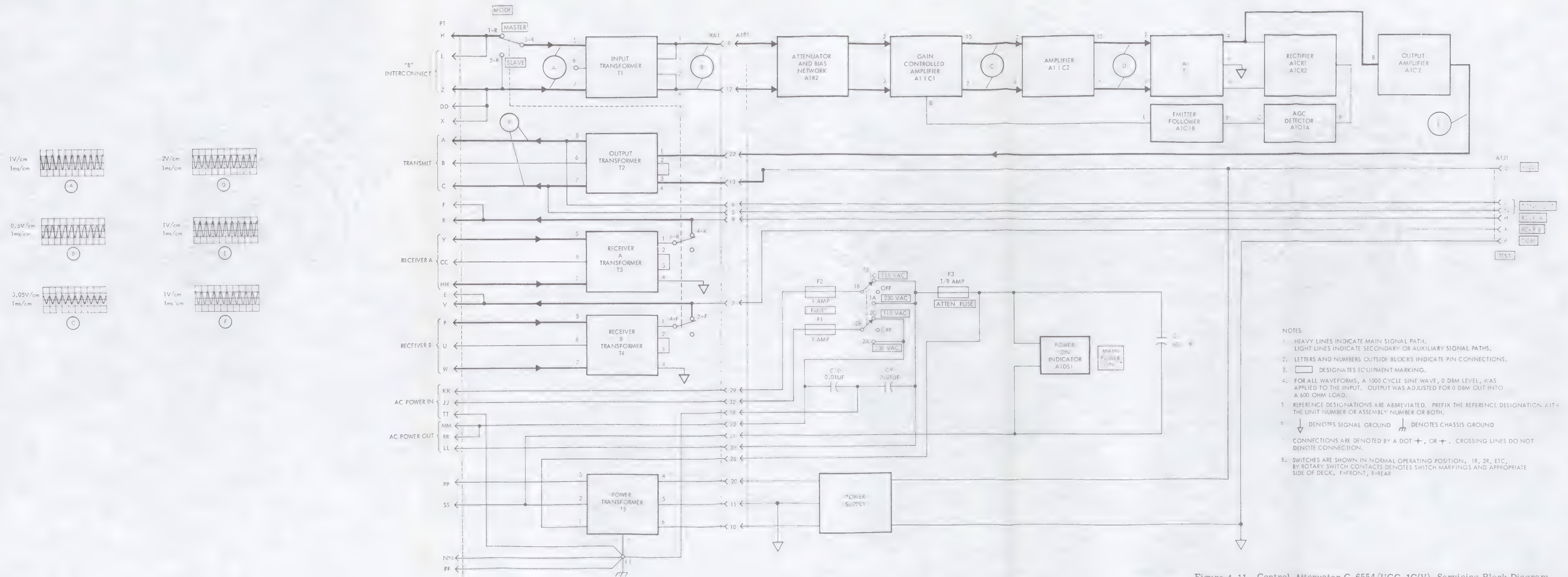


Figure 4-11. Control-Attenuator C-6554/UCC-1C(V), Servicing Block Diagram

PART LOCATION INDEX

UNIT 1A3A1

REFERENCE DESIGNATION	LOCATION	REFERENCE DESIGNATION	LOCATION
-----------------------	----------	-----------------------	----------

C1	7A	R4	9A
C2	9B	R5	15A
C3	9B	R6	15B
C4	12B	R7	15B
C5	14B	R8	16B
C6	16B	R9	17A
C7	17B	R10	17B
C8	9E	R11	17B
C9	6F	R12	17C
C10	7F	R13	5C
C11	8G	R14	8G
C12	8G	R15	8G
C13	9G	R16	9G
C14	8B		
C15	15B	S1	6D

F1	6E	T1	12B
F2	6D		
F3	7D	CR1	13B
J1	D1B	CR2	13B
L1	8E	CR3	7G
P1	5	CR4	7G
Q1	15B	CR5	10G
Q2	17B		

UNIT 1A3

REFERENCE DESIGNATION	LOCATION
-----------------------	----------

P1	1
E1	3H
S1	2B
T1	3B
T2	3C
T3	3D
T4	3E
T5	3G
XA1	5

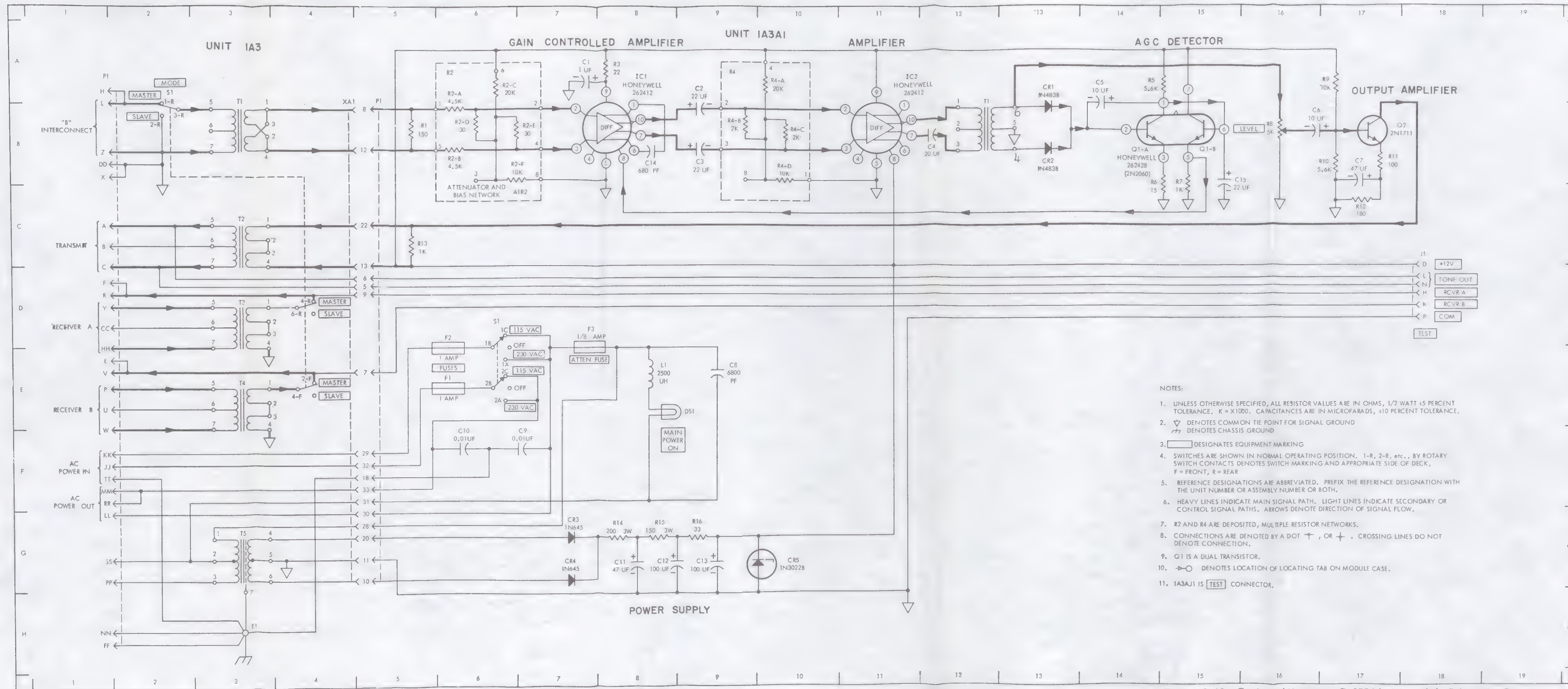
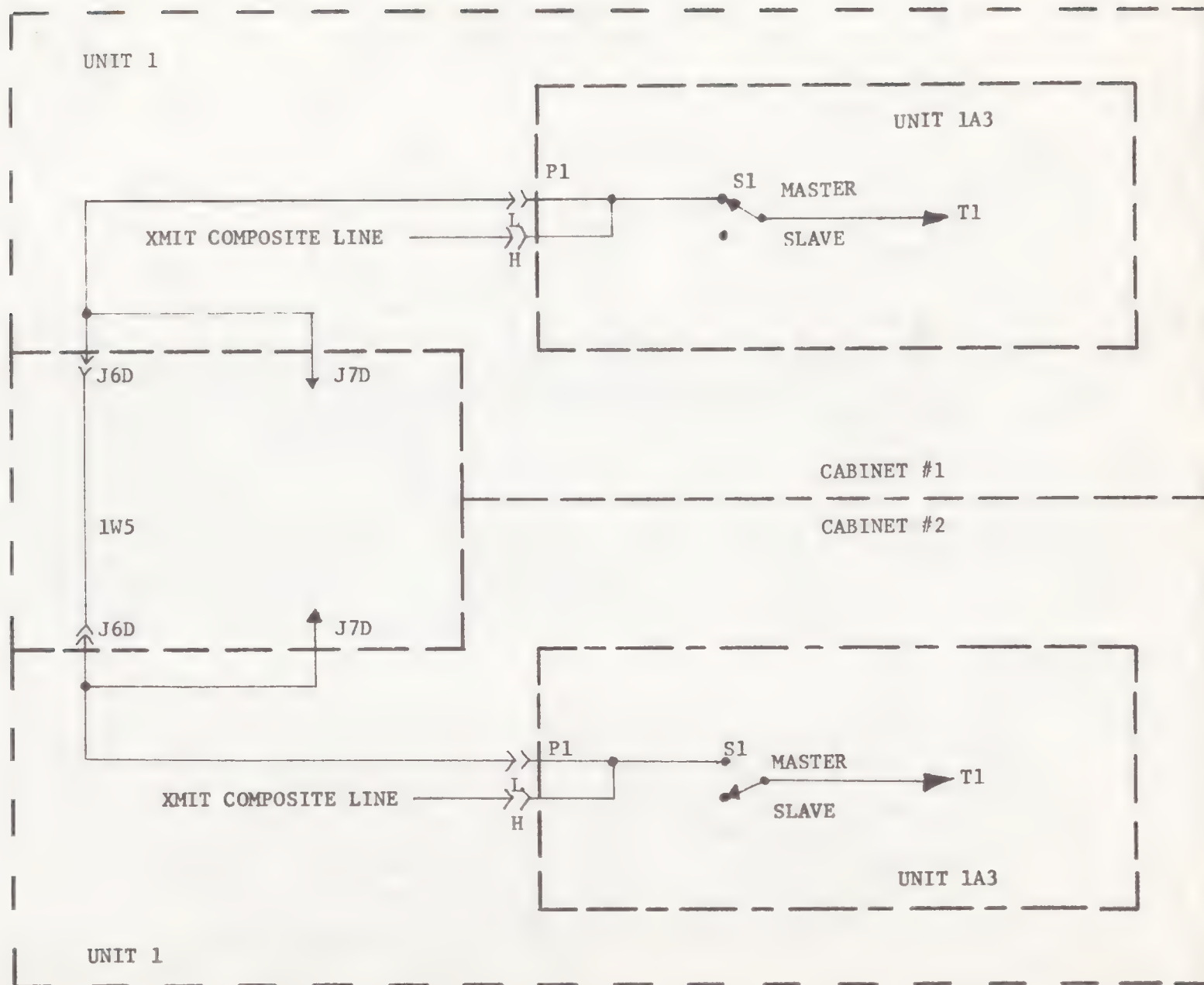
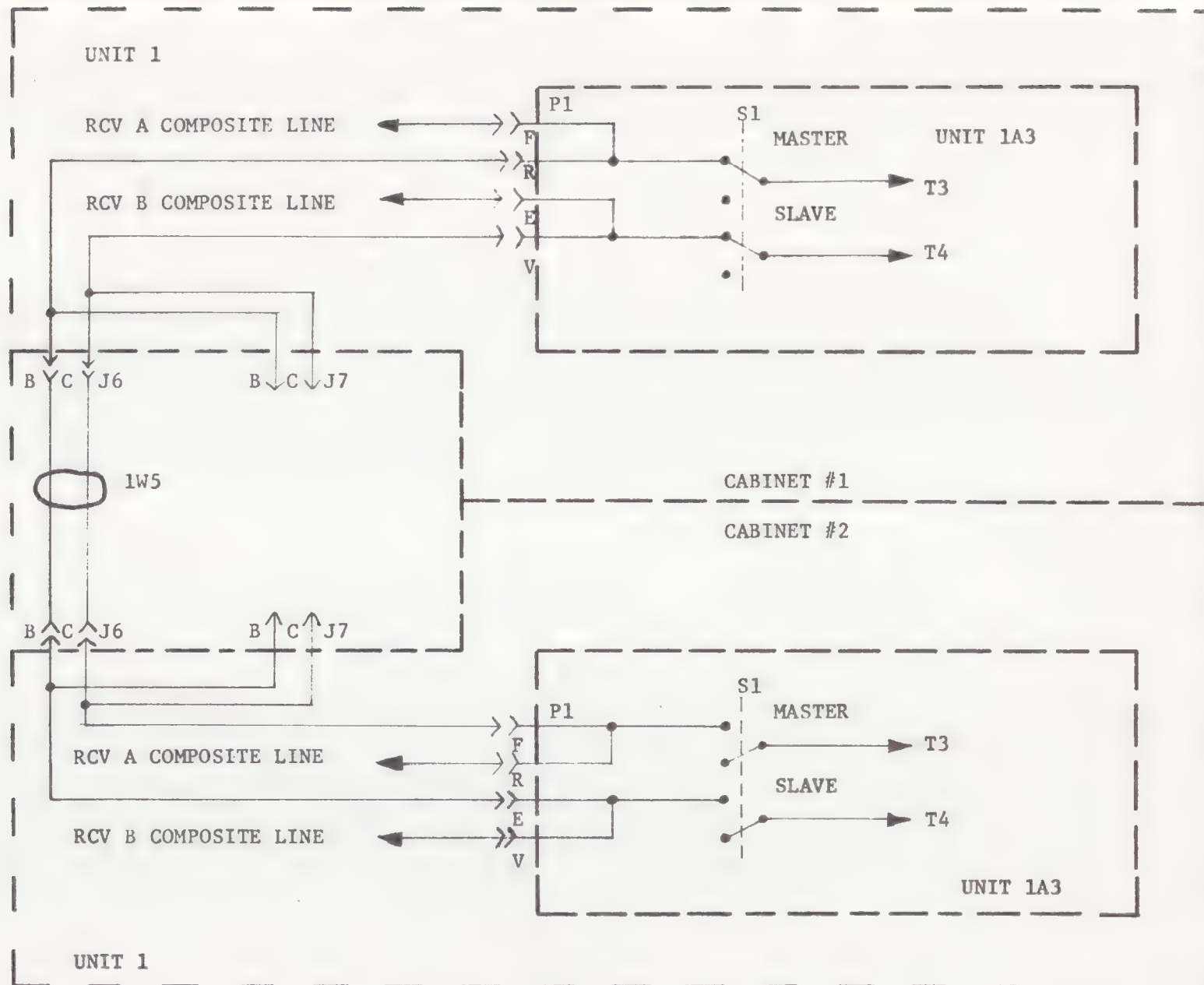


Figure 5-10. Control-Attenuator C-6554/UCC-1C(V), Schematic Diagram



TRANSMIT MASTER/SLAVE
SIMPLIFIED DIAGRAM

3-3-4D



RECEIVE MASTER/SLAVE
SIMPLIFIED DIAGRAM

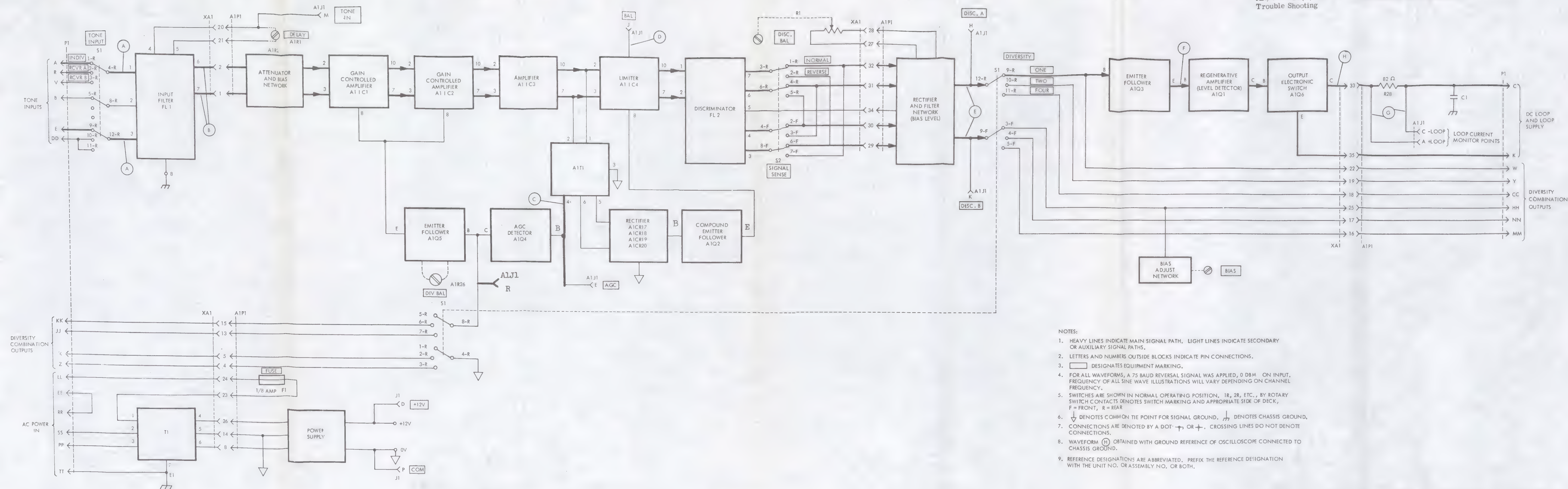
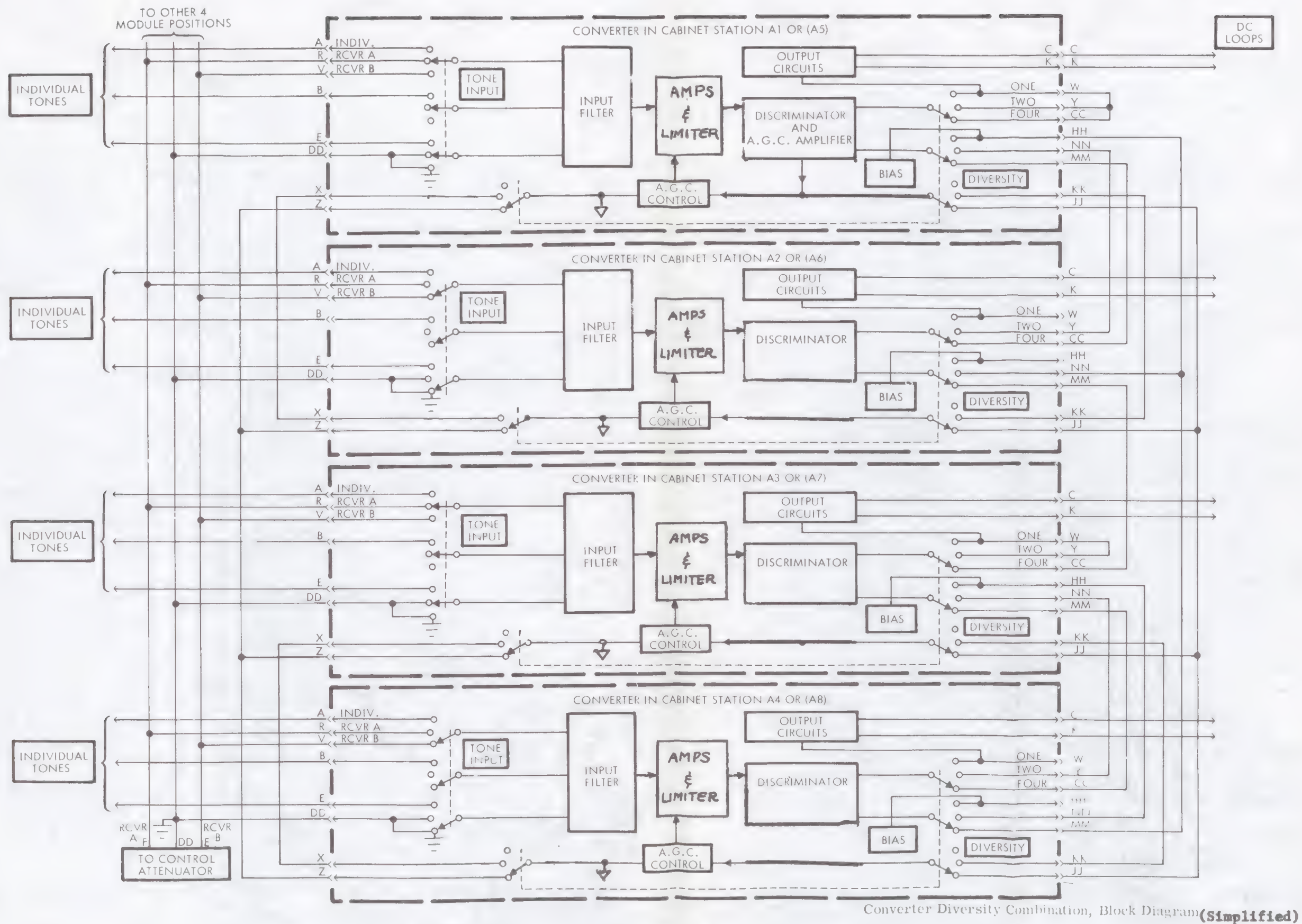


Figure 4-9. Converter, Frequency Shift CV-1920(P)/UCC-1C(V), Servicing Block Diagram



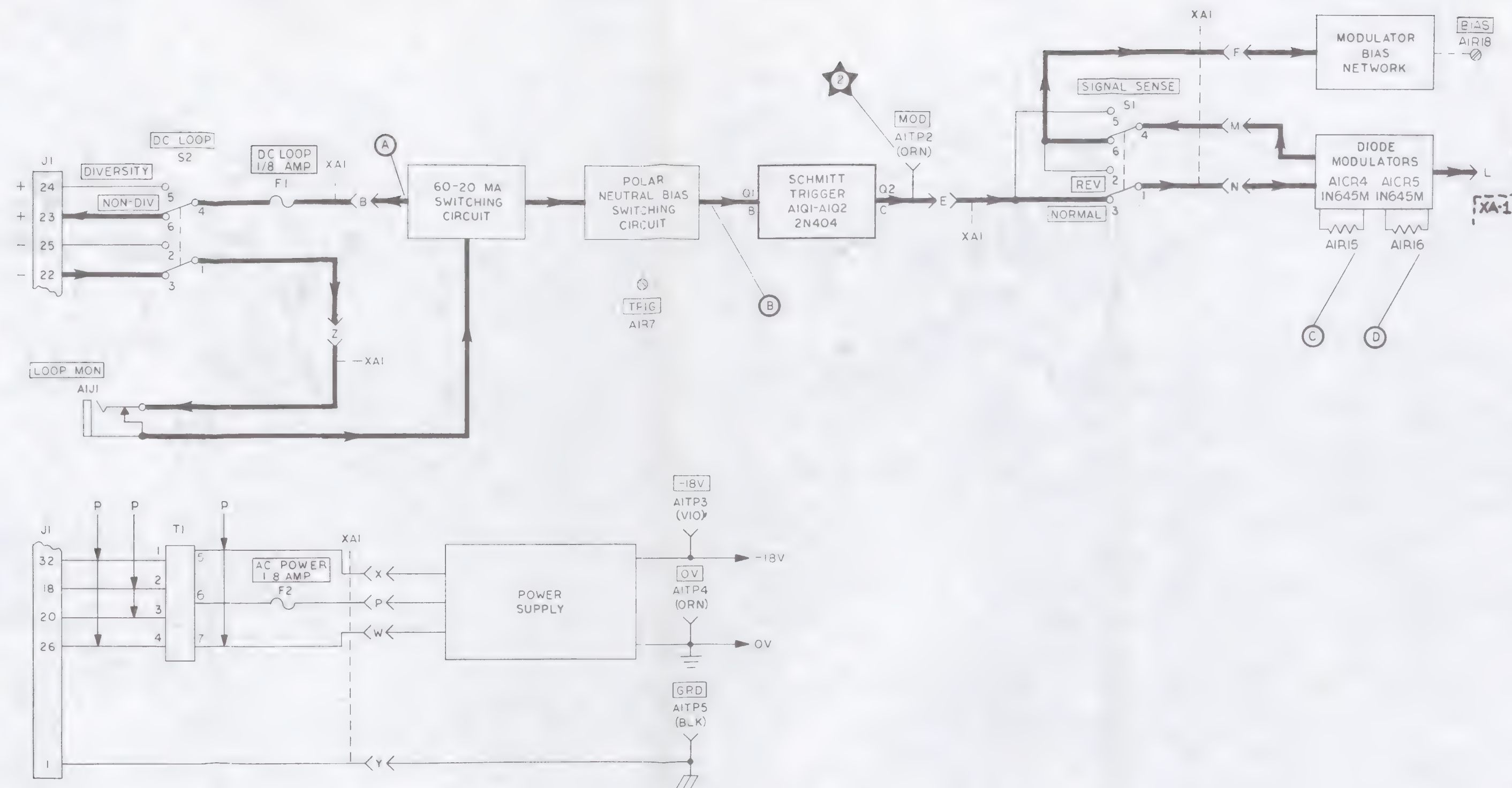
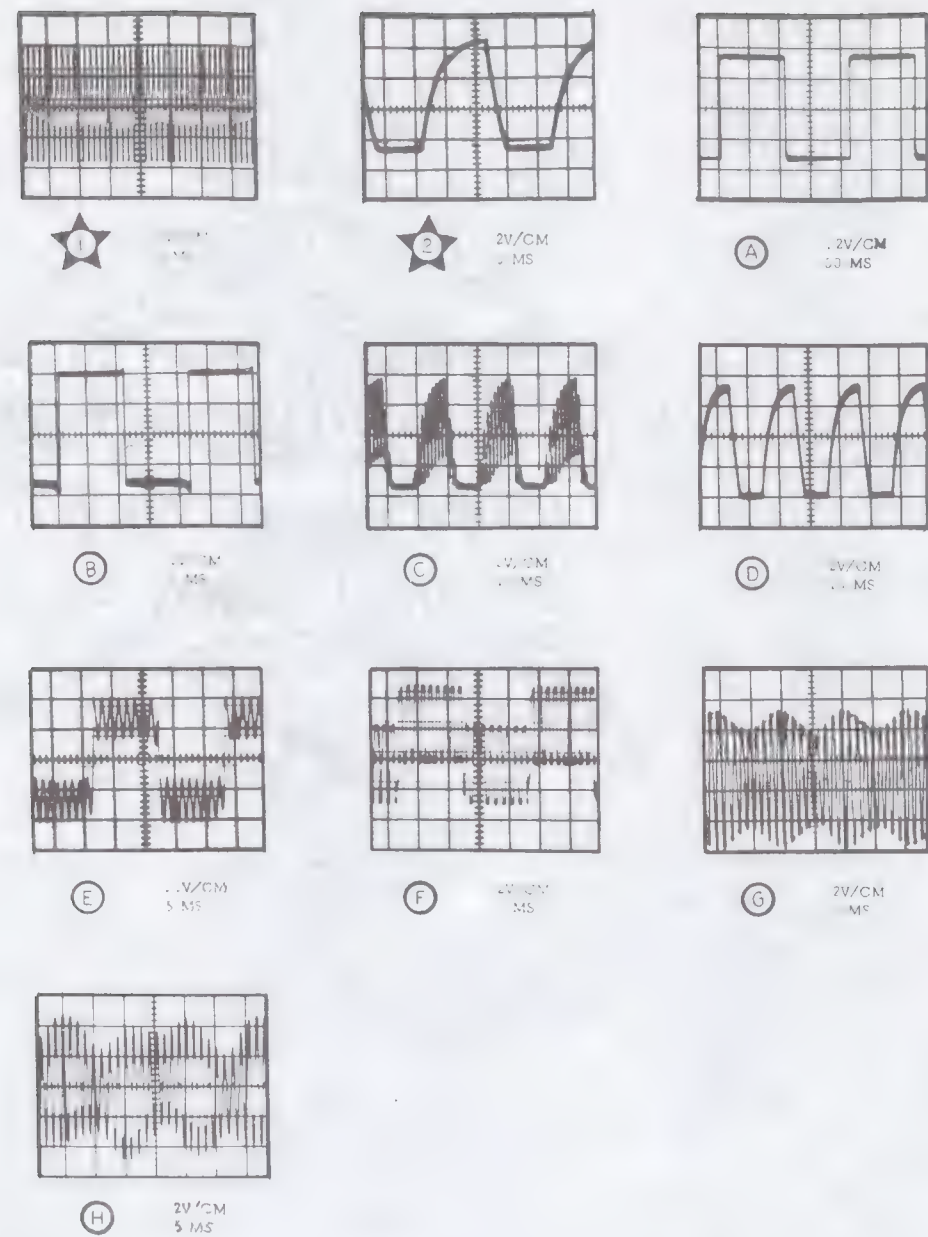
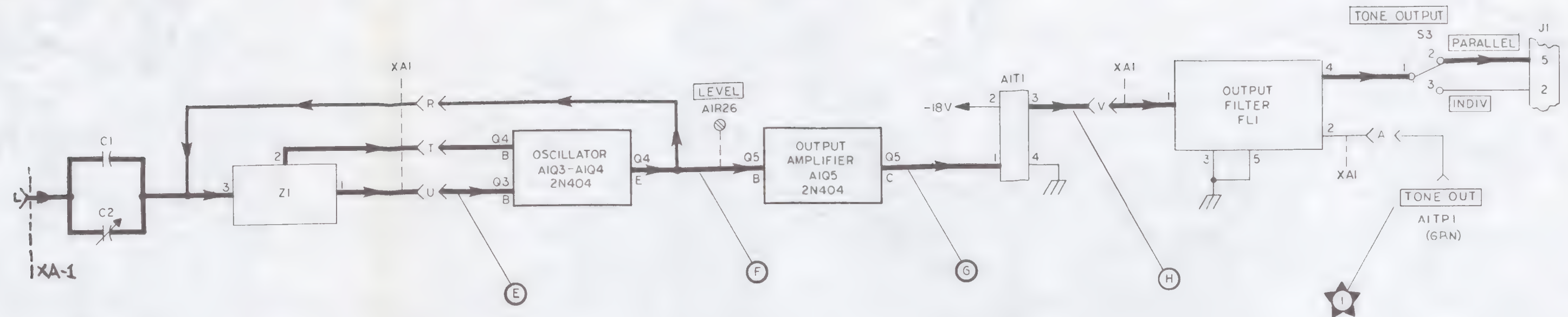
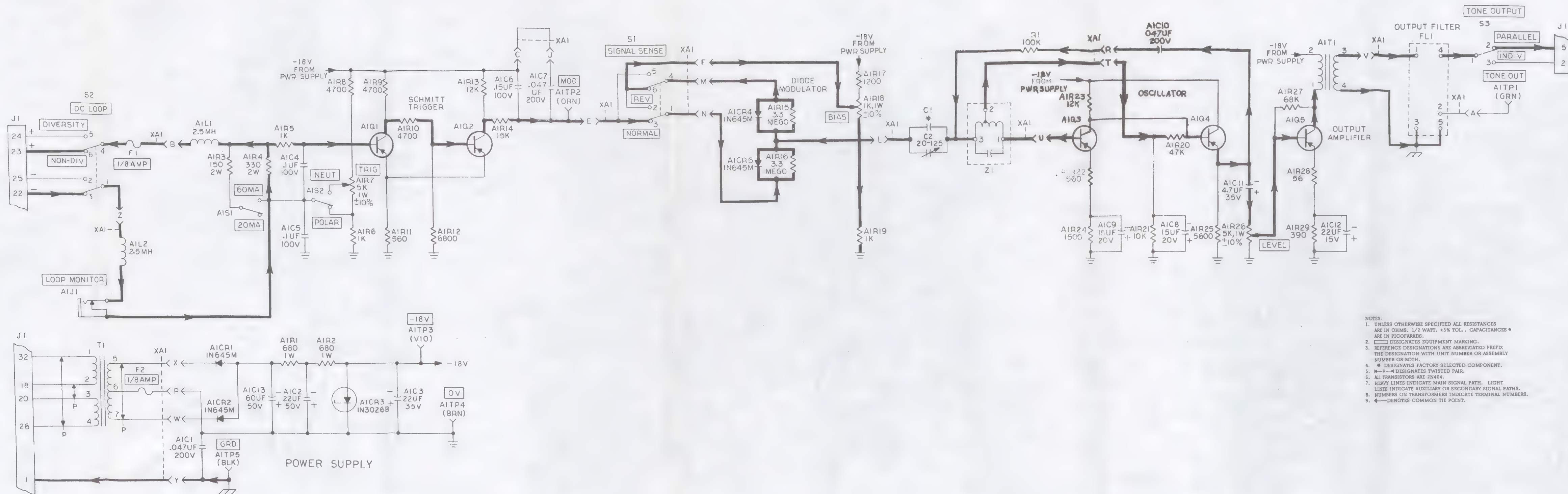


Figure 4-2. Keyer Frequency Shift, KY-490(P)/UCC-1(V), Servicing Block Diagram (Sheet 1 of 2)



- NOTES:
1. HEAVY LINES INDICATE MAIN SIGNAL PATH. LIGHT LINES INDICATE AUXILIARY OR SECONDARY SIGNAL PATHS.
 2. LETTERS AND NUMBERS OUTSIDE TRANSISTOR BLOCKS INDICATE TRANSISTOR CONNECTIONS. NUMBERS ON TRANSFORMERS INDICATE TERMINAL NUMBER.
 3. — DENOTES COMMON TIE POINT.
 4. — DESIGNATES EQUIPMENT MARKING.
 5. FOR WAVEFORM ★ 1 A STEADY-MARK SIGNAL WAS APPLIED FROM TEST SET TO KEYS. FOR ALL OTHER WAVEFORMS A 75 BAUD REVERSAL SIGNAL WAS APPLIED. SWITCHES WERE SET AS SHOWN.

Figure 4-2. Keyer, Frequency Shift, KY-490(P)/UCC-1(V),
Servicing Block Diagram
(Sheet 2 of 2)

Figure 5-12. Keyer, Frequency Shift KY-490(P)/UCC-1(V),
Schematic Diagram

REF DESIG	LOC	REF DESIG	LOC	REF DESIG	LOC
AIC1	8D	J1-11	2G	AIR21	18B
AIC2	14C	J1-12	2G	AIR22	18C
AIC3	14D	J1-13	32H	AIR24	19C
AIC4	15B	J1-14	32H	AIR25	11F
AIC5	16B	J1-15	32H	AIR26	12F
AIC6	15C	J1-16	2H	AIR27	21C
AIC7	17D	J1-17	2H	AIR28	20B
AIC8	18D	J1-18	2I	AIR29	13D
AIC9	19B	J1-20	2I	AIR30	13F
AIC10	20C	J1-22	32G	AIR31	13F
AIC11	13E	J1-23	32F	AIR32	15F
AIC12	15F	J1-26	2J	AIR33	15E
AIC13	16F	J1-30	32J	AIR34	16F
AIC14	19E	J1-31	32J	AIR35	29C
AIC15	30C	J1-32	2I	AIR36	29D
AIC16	20D	AIR37	31C	AIR37	31C
AIC17	21H	AIR38	22C	AIR38	22C
AIC18	31C	AIR39	22G	AIR39	22G
AIC19	22B	AIR40	26H	AIR40	26H
AIC20	24I	AIR41	25I	AIR41	25I
AIC21	9I	AIR42	24G	AIR42	24G
AIC22	10J	AIR43	25G	AIR43	25G
AIC23	28F	AIR44	25F	AIR44	25F
AICR1	11F	AIR45	25G	AIR45	25G
AICR2	11F	AIR46	26F	AIR46	26F
AICR3	11B	AIR47	26G	AIR47	26G
AICR4	11C	AIR48	27F	AIR48	27F
AICR5	11B	AIR49	27F	AIR49	27F
AICR6	11C	AIR50	28F	AIR50	28F
AICR7	13F	AIR51	28G	AIR51	28G
AICR8	20C	AIR52	8J	AIR52	8J
AICR9	17E	AIR53	9J	AIR53	9J
AICR10	17F	AIR54	10J	AIR54	10J
AICR11	17E	AIR55	11J	AIR55	11J
AICR12	17F	AIR56	7C	AIR56	7C
AICR13	28B	AIR57	9B	AIR57	9B
AICR14	28C	AIR58	12C	AIR58	12C
AICR15	28D	S1	26B,C,D	S1	26B,C,D
AICR16	28E	S2	4B	S2	4B
AICR17	40B	AIR5	11B	AIR5	11B
AICR18	8I	AIR6	11C	AIR6	11C
AICR19	8J	AIR7	11B	AIR7	11B
AICR20	11J	AIR8	11C	AIR8	11C
AICR21	11J	AIR9	12B	AIR9	12B
FL	31F	AIR10	12C	AIR10	12C
FL1	5B	AIR11	8A	AIR11	8A
FL2	30G	AIR12	14C	AIR12	14C
J1-1	2C	AIR13	14B	AIR13	14B
J1-2	2B	AIR14	15B	AIR14	15B
J1-3	2B	AIR15	15B	AIR15	15B
J1-4	2C	AIR16	15D	AIR16	15D
J1-6	2D	AIR17	16B	AIR17	16B
J1-7	2F	AIR18	16C	AIR18	16C
J1-9	2D	AIR19	17B	AIR19	17B
J1-10	2F	AIR20	17C	AIR20	17C
		AIT1	10B	AIT1	10B
		AIT2	13B	AIT2	13B
		AIT3	18B	AIT3	18B
		AITP1	10C	AITP1	10C
		AITP2	19B	AITP2	19B
		AITP3	30B	AITP3	30B
		AITP4	30D	AITP4	30D
		AITP5	12I	AITP5	12I
		AITP6	12J	AITP6	12J
		Z1	25B,C,D	Z1	25B,C,D

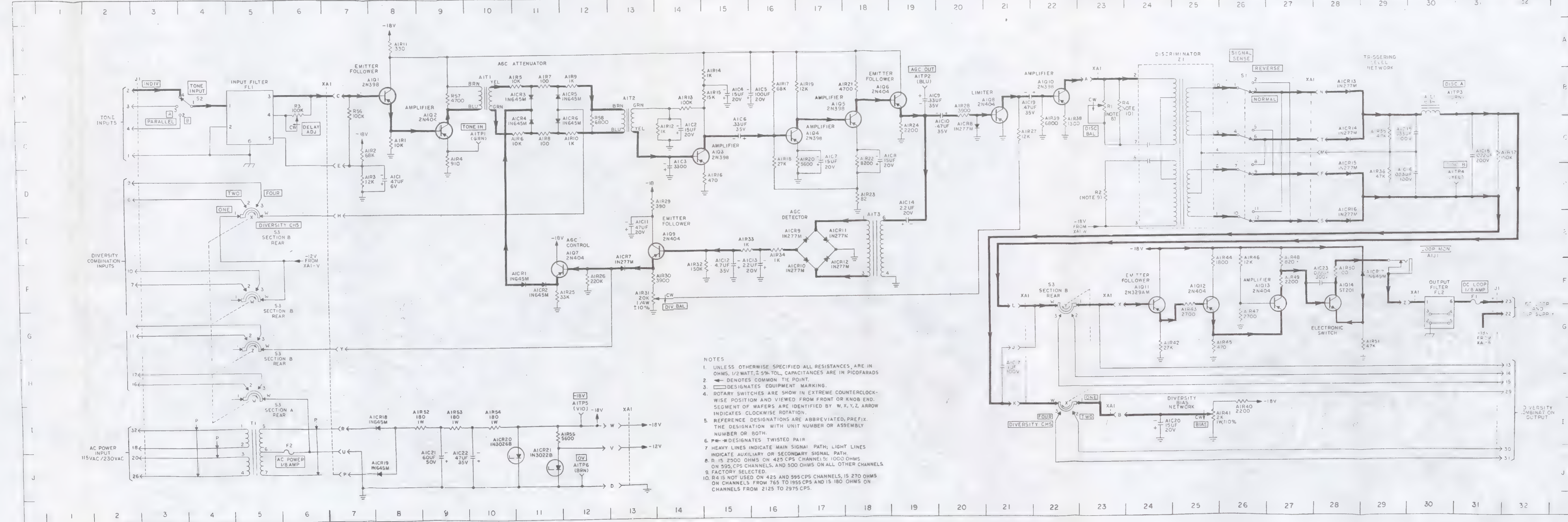


Figure 5-13. Converter, Frequency Shift CV-1522(P)/UCC-1(V), Schematic Diagram

5545011

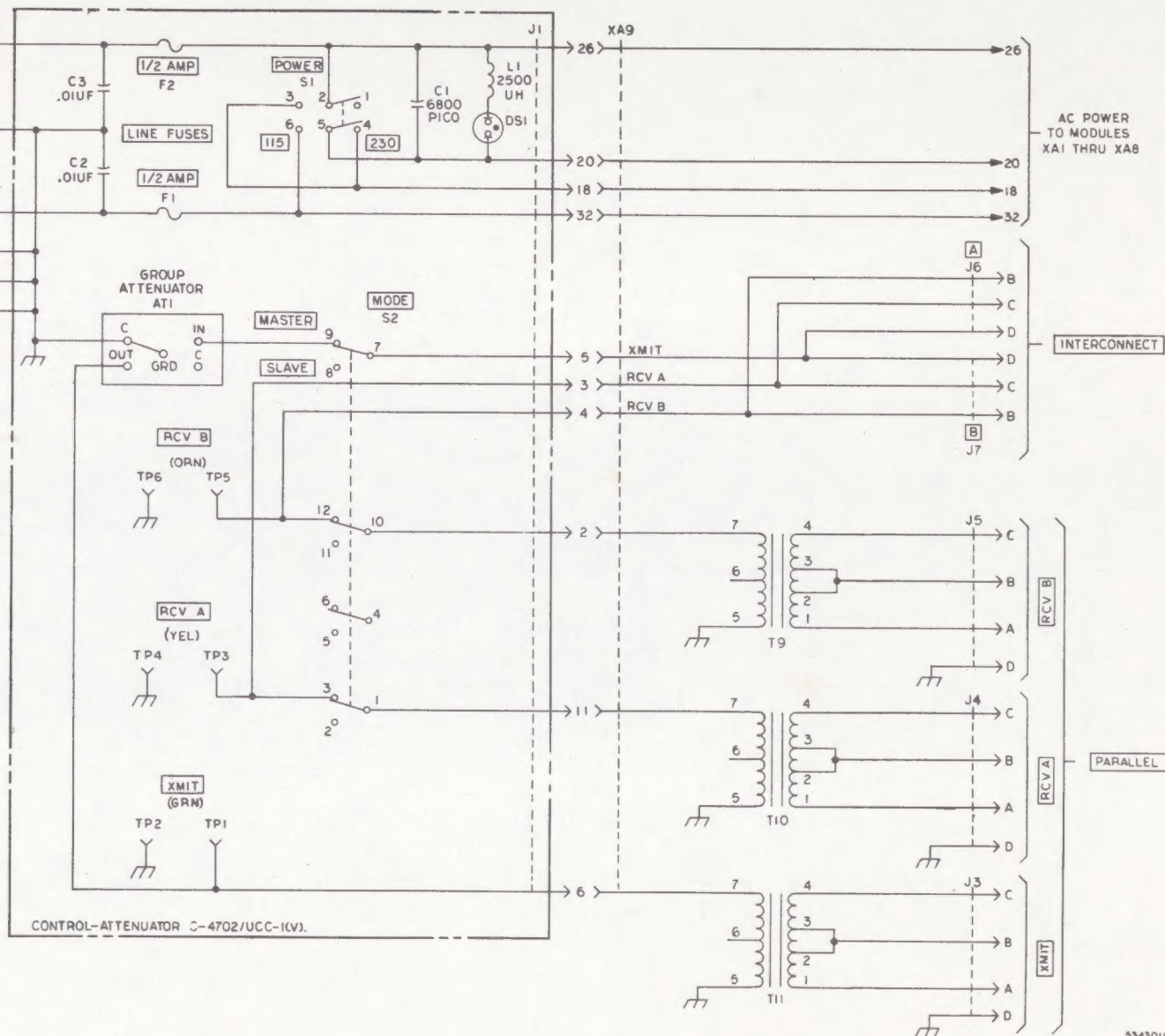


Figure 5-14 Control Attenuator C-4702/UCC-1(V),
Schematic Diagram

ORIGINAL

UNCLASSIFIED

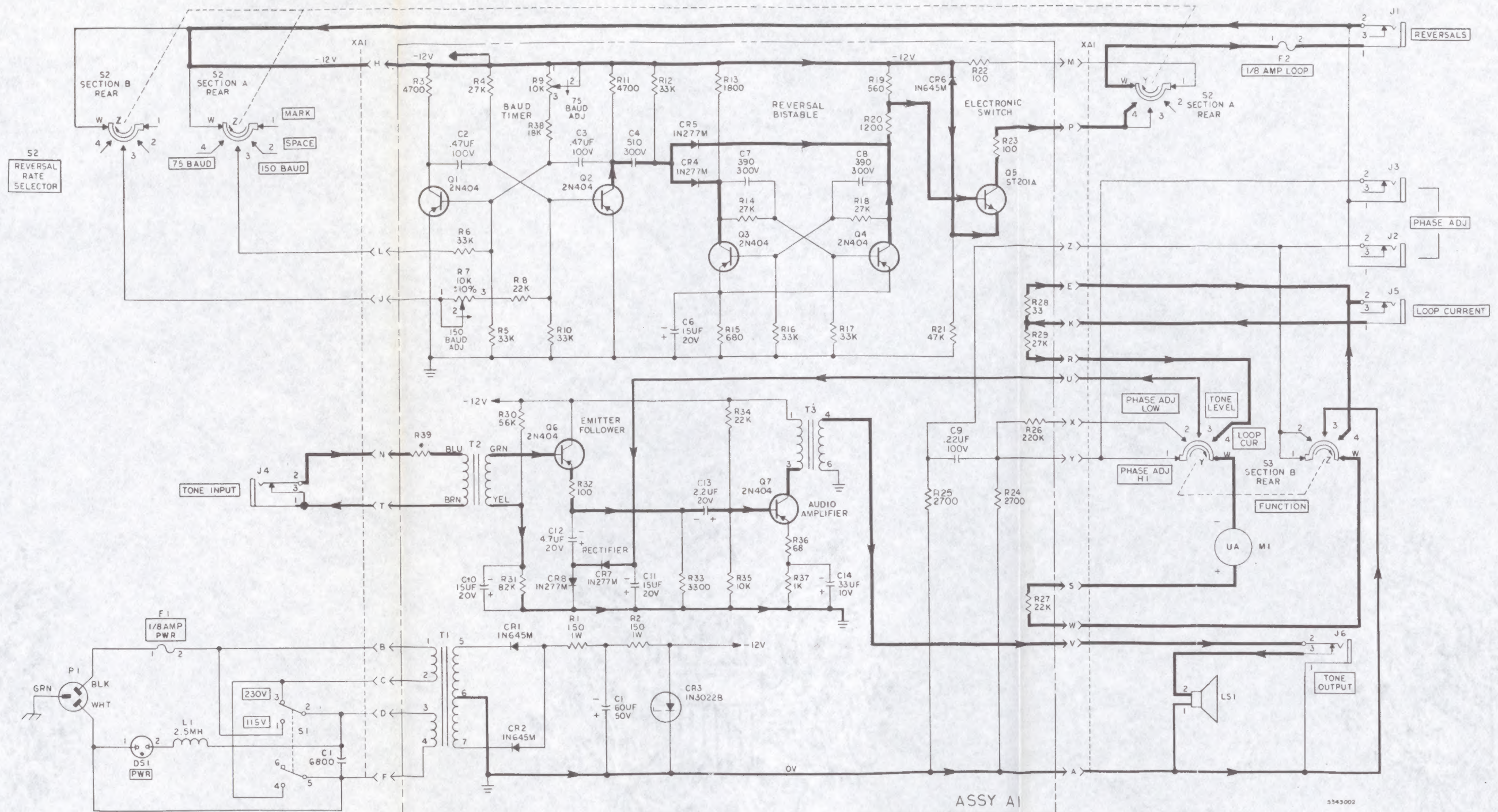
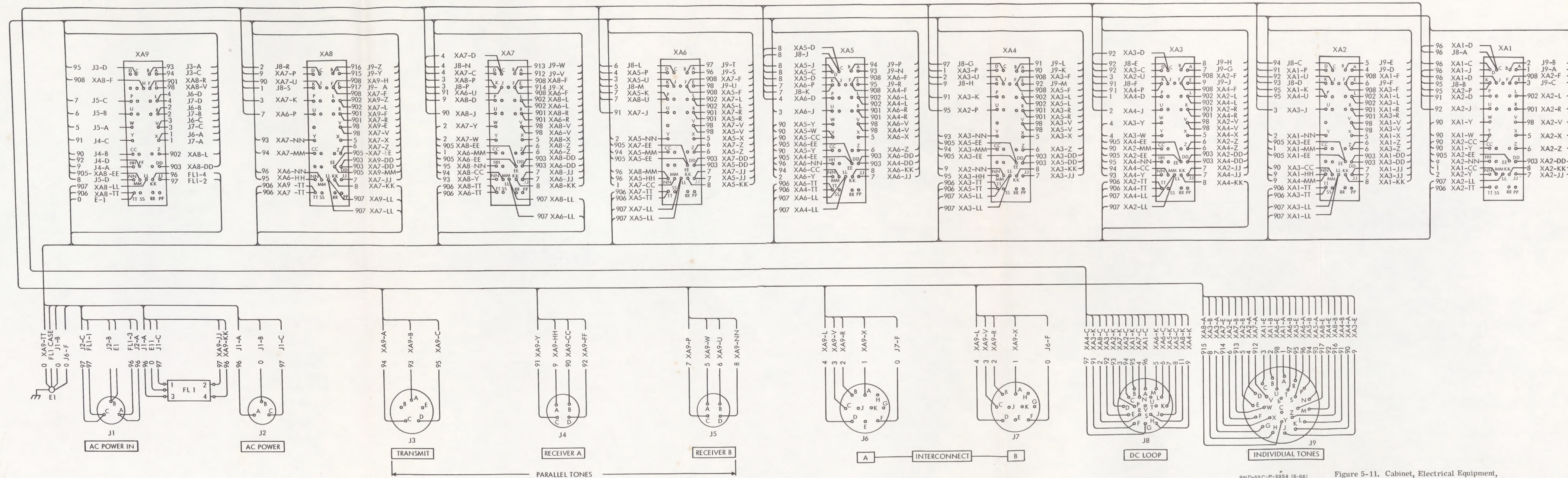


Figure 5-19. Test Set, Telegraph TS-1920/UCC-1(V),
Schematic Diagram

NOTES:

- UNLESS OTHERWISE SPECIFIED ALL RESISTANCES ARE IN OHMS, 1/2 WATT, $\pm 5\%$ TOL., CAPACITANCES ARE IN PICO FARADS.
- ROTARY SWITCHES ARE SHOWN IN EXTREME COUNTER-CLOCKWISE POSITION, ARE VIEWED FROM FRONT OR KNOB END SECTION A IS WAFER CLOSEST TO KNOB END SEGMENTS OF WAFERS ARE IDENTIFIED BY X,Y,Z, ARROW INDICATES CLOCKWISE ROTATION.

- DESIGNATES EQUIPMENT MARKING.
- DESIGNATES FACTORY SELECTED COMPONENT.
- DENOTES COMMON TIE POINT OR VOLTAGE BUS.
- REFERENCE DESIGNATIONS ARE ABBREVIATED. PREFIX THE DESIGNATION WITH UNIT NUMBER OR ASSEMBLY NUMBER OR BOTH.
- HEAVY LINES INDICATE MAIN SIGNAL PATHS, LIGHT LINES INDICATE AUXILIARY OR SECONDARY SIGNAL PATHS.

Figure 5-11. Cabinet, Electrical Equipment,
CY-4639/UCC-1C(V), Wiring Diagram

PART LOCATION INDEX
REFERENCE LOCATION
DESIGNATION

UNIT 2

C1	C4
E1	5E
F1	2D
F2	2C
L1	4C
P2	1C
S5	3C
T1	5C
DS1	4D
FL1	2C

2A1

C10	10D
C11	11D
C12	10E
C13	11D
C14	10E
Q1	12D
R4	10D
R5	11D
R6	10E
R7	10E
R8	12D
CR59	11E

2A2

C10	10C
C11	11C
C16	7B
R33	10C
R34	10C
R35	11C
R42	7B
R43	6B
CR9	11C
CR14	7B

